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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,652	10/22/2003	Shu-Feng Lu	MR1957-792	6504
4586	7590	03/03/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			SOHN, SEUNG C	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/689,652	<b>Applicant(s)</b> LU, SHU-FENG	
	<b>Examiner</b> Seung C. Sohn	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Objections*

2. **Claims 2 and 10** are objected to because of the following informalities:  
  
On claims 2 and 10, line 2, "formed" after "one-piece" should be removed.  
  
Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. ***Claims 1-3, 5-6 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Welker (Patent no. US 4,672,201).***

Regarding claim 1, Welker shows in Figs. 2-4 a light source of an optical encoder (10), the optical encoder having an optical detector with a plurality of light receiving surfaces (62) and an encoder wheel (16, 18) intermittently blocking a light from the light source, the light source comprising at least one light emitting diode (60),

a package casing (Fig. 2, 44) and a collimating unit with lenses (56) corresponding to the light receiving surfaces (62) (Col. 5, lines 56-68).

**Regarding claims 2 and 10,** Welker shows in Fig. 2 that the collimating unit is one-piece formed with package casing.

**Regarding claims 3 and 6,** Welker shows in Fig. 4 that lenses (56) are plane-convex lenses.

**Regarding claims 5 and 11,** Welker shows in Fig. 2 that the collimating unit is assembled on the package casing.

**Regarding claims 8 and 12,** Welker shows in Fig. 3 that the number (4) of light-emitting diodes corresponds to the number (4) of the light receiving surfaces.

**Regarding claim 9,** Welker shows in Figs. 2-4 a light source of an optical encoder (10), the optical encoder having an optical detector with a plurality of light receiving surfaces (62) and an encoder wheel (16, 18) intermittently blocking a light from the light source, the light source comprising at least one light emitting diode (60), a package casing (Fig. 2, 44) and a collimating unit with openings (Fig. 4, spaces between lenses (56) and grating (66)) corresponding to the light receiving surfaces (62) (Col. 5, lines 56-68).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**6. *Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welker (Patent no. US 4,672,201) in view of Franklin et al. (Patent No. US 4,766,323).***

Regarding claims 4 and 7, Welker shows the claimed invention as above, but is silent that the lenses are double-convex lenses. Franklin et al. discloses a double-convex lens (Fig. 1, 12 or 14) (Col. 3, lines 61-67). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the double-convex lens of Franklin et al., instead of the plane-convex lens, to the device of Welker for the purpose of focusing more light.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

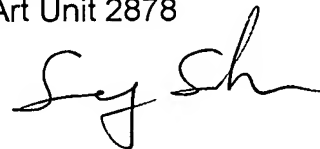
**Stephens (Patent No. US 4,938,828)** discloses an opto-electronic scale reading apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (571) 272-2446. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seung C. Sohn  
Examiner  
Art Unit 2878

A handwritten signature in black ink, appearing to read 'Seung C. Sohn' in a stylized, cursive script.